

# Cable Operators Neutral Network Exchange for Community Transformation (CONNECT)

A EU-funded project implemented by UP-EEEI

<http://connect.net.ph>

# It's more fun in the Philippines

- The Philippines remain to be the social media capital of the world\*
  - 89M social media users (facebook, twitter,etc)
  - There were 152.4 million mobile connections in the Philippines in January 2021
- Social media fueling the economy
  - Democratizing information
  - Creating new jobs
  - Pushing brands and businesses to new heights



However, Internet penetration rates remain low as incumbent telcos are reluctant to invest in building wired infrastructure in areas with potentially poor returns

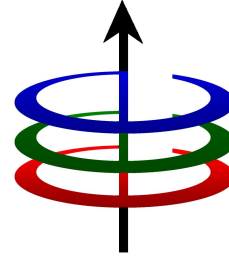
# Cable operators are powerful market forces

- Cable operators are well established in rural areas
  - Extensive wired infrastructure deployed in their respective service areas
- Many cable operators have insufficient access to critical Internet resources
  - Competent human resources
  - Affordable upstream Internet services
  - Pole infrastructure in missionary areas



# We try to CONNECT!

- Cable Operator Neutral Network Exchange and Community Transformation
  - Asi@Connect-funded project implemented by UP-EEEI, DOST-ASTI, Central Luzon State U, and Telmarc Corporation
- Aims to empower both the cable operators and the communities they serve
  - Develop robust infrastructure for reliable Internet service
- Ongoing implementation until June 2021



Asi@Connect



This project is co-funded  
by The European Union

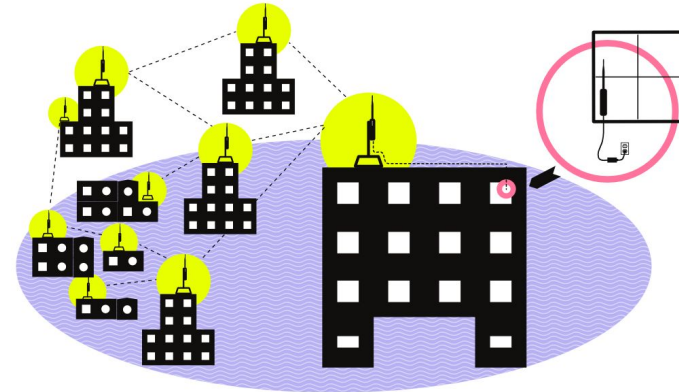
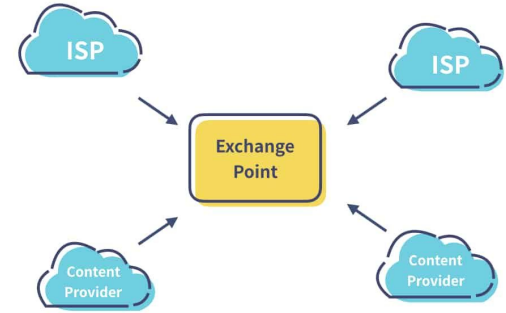


This project is implemented  
By TEIN-CC



# Collaboration is key in narrowing the gap!

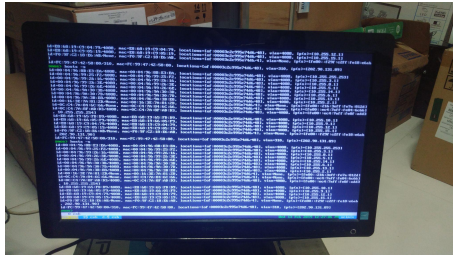
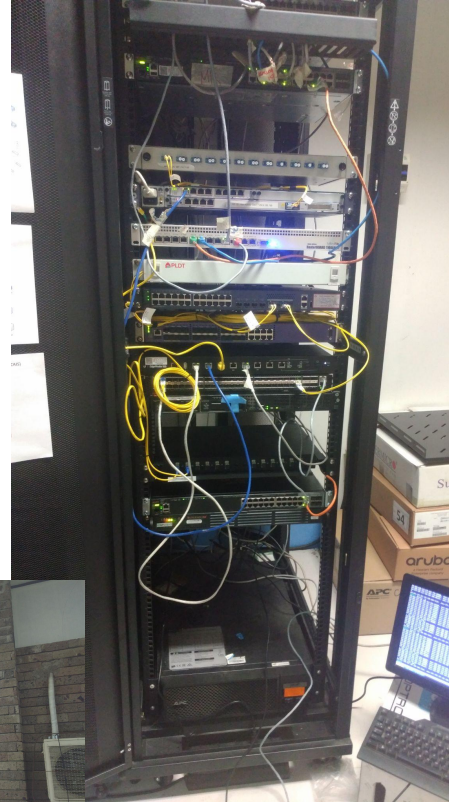
- Attempts to foster collaboration among cable operators
  - Organize technical forums on Internet service ops
  - Provide BGP trainings to cable operator groups
  - Establish neutral IXP for cable operators
  - Implement novel network services useful for the cable industry
  - Empower the community to build own wireless-based network access infrastructure





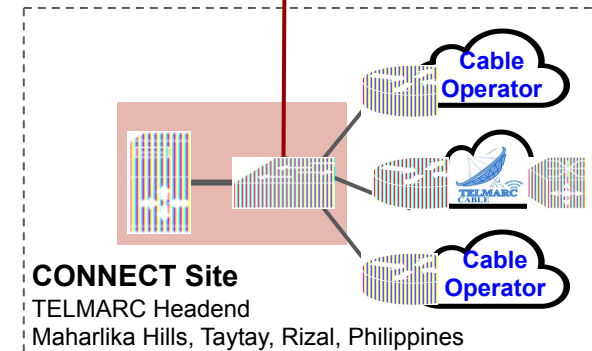
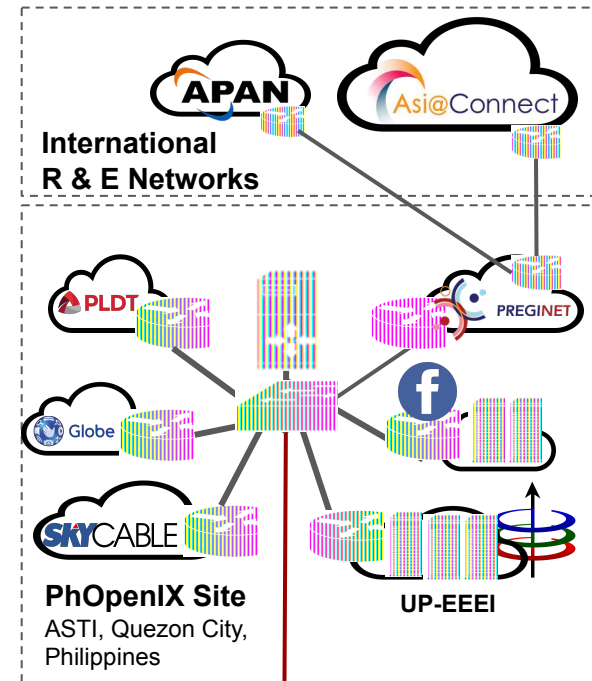
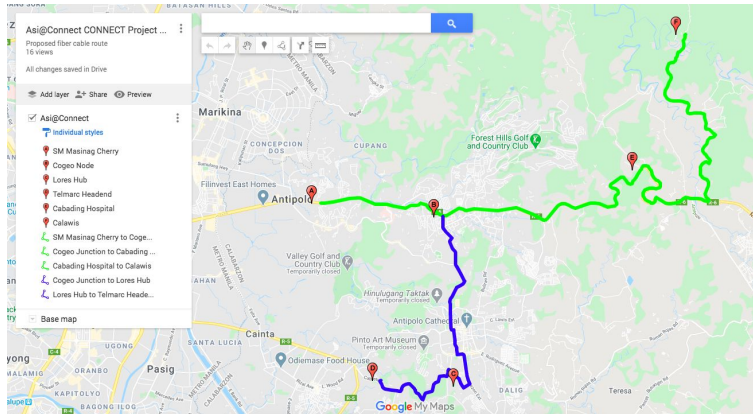
# Software-defined networking enables novel applications

- Pilot testing an SDN-based Internet exchange point
  - Strategically situated in Nueva Ecija, Philippines (CLSU campus)
  - Platform for developing novel IXP network applications
  - Provides high-speed interconnection facility for research and educational institutions, and commercial providers operating in the region

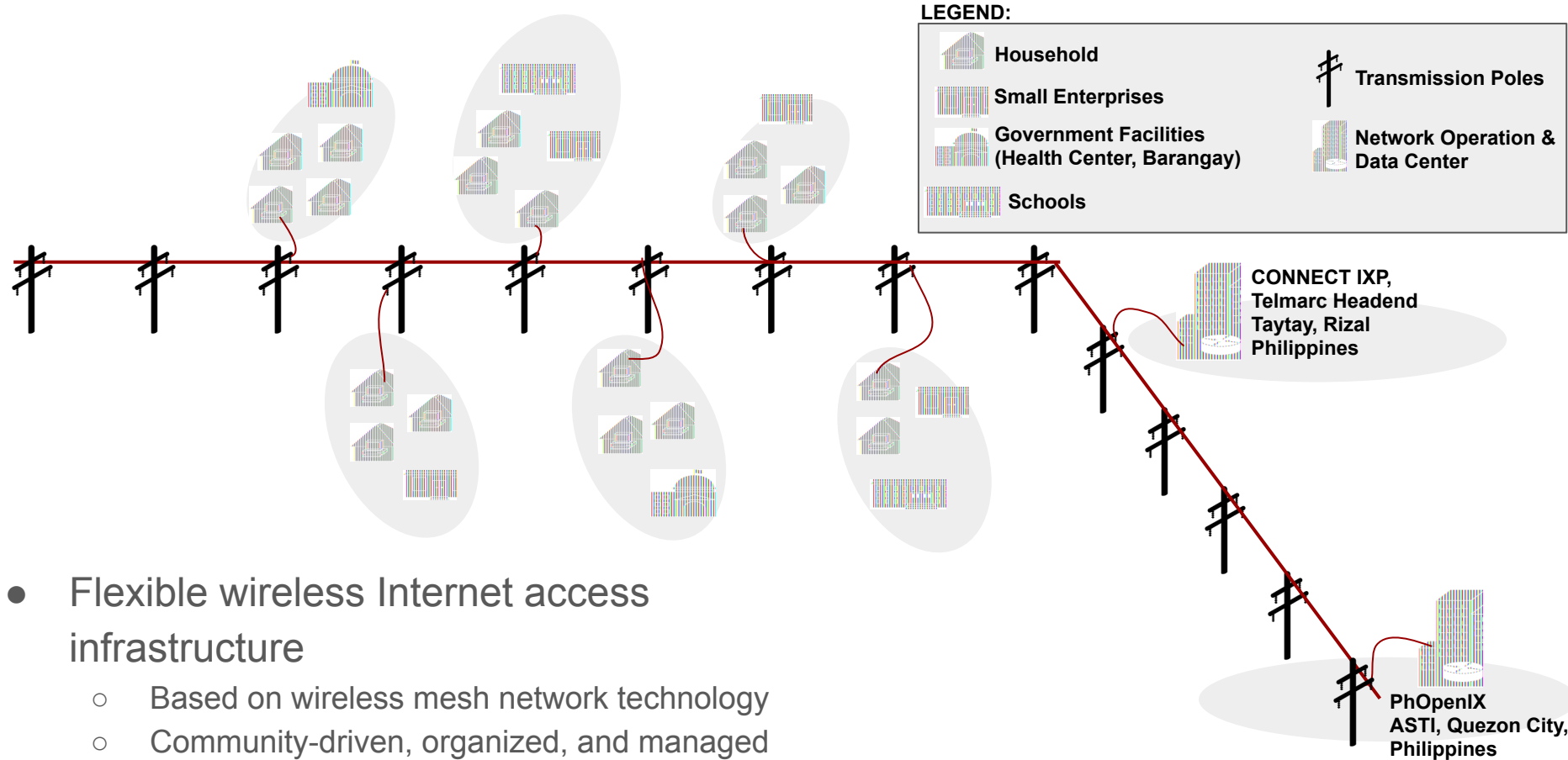


# Cable Operator IXP needs to be in a neutral location

- CONNECT IXP located in Telmarc's headend office
  - Leverage existing points of presence of various cable operators
  - Will provide access to members of PHOpenIX in DOST-ASTI



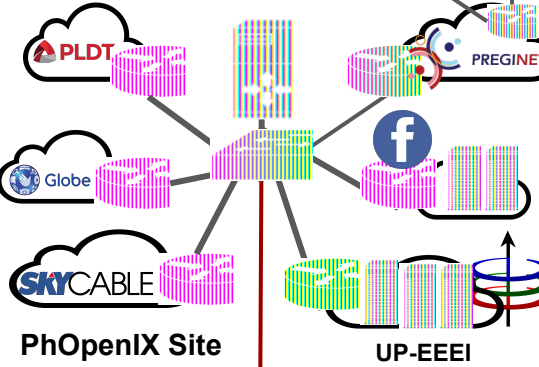
# CO-OWN: Community-operated Wireless Networks



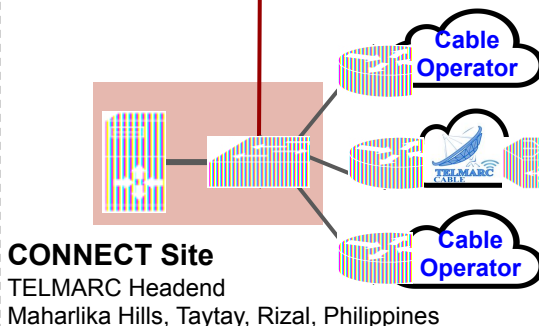


# CONNECT Network Architecture High-Level Design

International  
R & E Networks

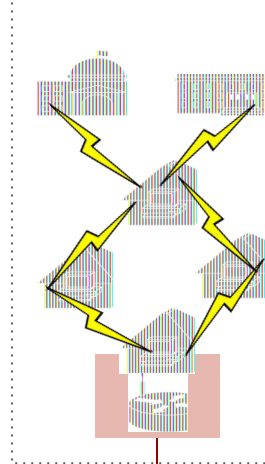


**PhOpenIX Site**  
ASTI, Quezon City,  
Philippines

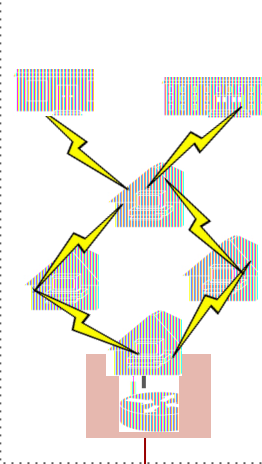


**CONNECT Service Project Area**  
Calawis, Antipolo City, Rizal, Philippines

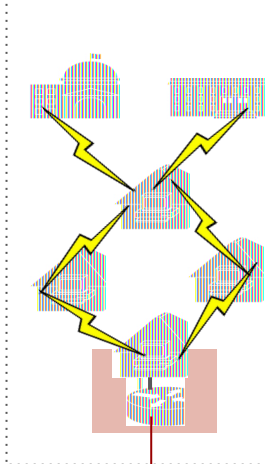
Target Community #1



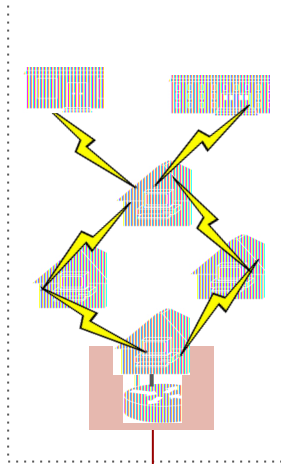
Target Community #2



Target Community #3

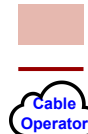


Target Community #N



**LEGEND:**

CONNECT Wireless  
Access Backbone Network



CONNECT Equipment

CONNECT Fiber Optic Cable Network

CONNECT Target Beneficiaries

